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EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

| ART UNIT | PAPER NUMBER |
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2652

DATE MAILED: 06/10/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,474

Applicant(s)

LEIBER ET AL.

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-11, 18-20 and 22 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 12-15, 21 and 23-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 14.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Remarks Filed May 4, 2004

In a response to the *Notice of Non-responsive Reply*, the Applicants' stated that "it was agreed that the March 8th reply complies with 37 CFR 1.111 and MPEP Section 714.02 by pointing out that '[c]laims 10 and 11 each depends from claim 1 and are believed to be allowable for at least the reasons advanced with respect to claim 1.' "

It is the Examiner's position, however, that from a technical standpoint, the *Notice of Non-Responsive Reply by Applicant* mailed April 21, 2004 (Paper No. 12) was proper and in accordance with 37 CFR 1.111 and MPEP Section 714.02. After consulting with the Applicants, the Examiner agreed that the MPEP didn't directly address this particular situation, as it pertains to newly submitted *dependent* claims. Thus, based on this somewhat ambiguous situation, and to further expediency of the prosecution of this application based on the merits, as opposed to technical grounds of non-responsiveness, the Examiner agreed to withdraw the Non-Responsive requirement at the request of the Applicants. An action on the merits follows, *infra*.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakayama

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et al. (US 5,674,583).

As per claim 1, Nakayama et al. (US 5,674,583) discloses a data storage medium (1) having an optical information carrier which comprises a spiral-wound polymer film (2) - see, e.g., FIG. 4(d), wherein the media (1) is spirally wound, the central area of the data storage medium (1) being provided with a recess (recess in which cylinder (33) lies) whose periphery is formed by the innermost winding of the polymer film (2).

As per claim 2, the polymer film (2) is wound in a plurality of polymer film plies (located axially) through which information can be read from a preselected polymer film ply and, optionally, written to a preselected polymer film ply (e.g., forming groove (23)).

As per claim 3, there is an adhesion layer between each pair of adjacent polymer film (2) plies (e.g., the layer (28) formed upon polymer substrate (2) is coated thereon and is fixed thereto, such that the interface of layer (28) at the juncture of layer (2) must form an adhesive bond, hence an adhesion layer).

As per claim 4, the refractive index of the adhesion layer differs "only slightly" from the refractive index of the polymer film (2). This is interpreted broadly since the terminology "only slightly" is not defined in the Applicants' specification. Thus, it can be broadly said, that the interface layers of (2) and (28) at their contact point have a refractive index which differs "only slightly" from their respective main layers.

As per claim 5, the refractive index of the polymer film can be changed locally by heating (e.g., via (34)).

As per claim 6, the polymer film (2) is assigned an absorber (28) which is set up at least partly to absorb a write beam (beam forming grooves (23) in layer (28) and to emit the generated

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heat at least partly, locally, to the polymer film (2). That is, when laser (34) exposes part of film (28), there is at least some radiant heat that must be redirected back into layer (2). No layer, even a transparent layer, is completely unaffected by heat formed by light energy.

As per claim 9, which depends from claim 1, is drawn to a "data storage medium," *per se*, and as such can be said to be anticipated by Nakayama et al. (US 5,674,583) since there is no positive recitation of a drive which includes at least a reader, that results in a structural difference between the claims and Nakayama et al. (US 5,674,583). As has been widely held in patent law, a recitation of the *intended use* of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Claims 18 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Gersch et al. (US 3,288,389).

As per claim 18, Gersch et al. (US 3,288,389) discloses a data storage medium (3) including a spirally-wound information carrier (3), the central area of the data storage medium being provided with a recess (see FIG. 2, innermost wound portion of coreless film (3)) which contains no winding core and whose periphery is formed by the innermost winding of the information carrier (3).

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As per claim 22, wherein the information carrier (3) is spirally-wound so as to provide a plurality of plies (layers of film (3) which directly abut each other in the spiral formation of FIG. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al. (US 5,674,583).

See the description of Nakayama et al. (US 5,674,583), *supra*.

With regard to claims 10 and 11, although Nakayama et al. (US 5,674,583) remains silent with respect to the polymer film comprising a biaxially-oriented polypropylene or a polymethyl methacrylate, respectively, Official notice is taken that such polymer films are notoriously old and well known and ubiquitous in the art; such Officially noticed fact being capable of instant and unquestionable demonstration as being well-known.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the polymer film of Nakayama et al. (US 5,674,583) as being a biaxially-oriented polypropylene or a polymethyl methacrylate.

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the polymer film of Nakayama et al. (US 5,674,583) as being a biaxially-oriented

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polypropylene or a polymethyl methacrylate in order to provide a high-strength and readily available polymer film that is less susceptible to stretching, as is known in the art.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gersch et al. (US 3,288,389) in view of Ikegami (JP 9-171235 A).

See the description of Gersch et al. (US 3,288,389), *supra*.

As per claim 19, Gersch et al. (US 3,288,389) remains silent with respect to the information carrier (photographic film) including a polymer layer.

Ikegami (JP 9-171235 A) discloses a photographic carrier film of the type disclosed by Nakayama et al. (US 5,674,583), wherein the information carrier comprises a polymer film to prevent "curling on the side of the photosensitive layer." See abstract of Ikegami (JP 9-171235 A).

Additionally, as per claim 20, wherein the polymer film comprises a polymer film having an optical property that *can be* changed locally by heat. That is, broadly speaking, since the film is of a polymer, any heat applied to it locally will cause the polymer to chemically change (including burning a hole completely through it, by application of a local laser, etc.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the film of Gersch et al. (US 3,288,389) with a polymer layer, as taught and suggested by the analogous film of Ikegami (JP 9-171235 A).

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the film of Gersch et al. (US 3,288,389) with a polymer layer, as taught and suggested

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by the analogous film of Ikegami (JP 9-171235 A) in order to prevent "curling on the side of the photosensitive layer." See abstract of Ikegami (JP 9-171235 A).

Response to Arguments

Applicants' arguments filed March 8, 2004 (Paper No. 8) have been fully considered but they are not persuasive.

The Applicants allege that Nakayama et al. (US 5,674,583) fails to anticipate the invention as presently claimed. More concretely, the Applicants states:

With respect to claim 1, the office action alleges with reference to Figure 4(d) that Nakayama et al. discloses a spiral-wound polymer film 2. However, Figure 4(d) of Nakayama et al. is a cross-section view taken along the line D--D in Figure 5 and does not show any spiral winding of a polymer film. Figure 6 shows an optical tape wrapped around a hollow cylinder 33, but the tape is wrapped around the cylinder in a helical, not spiral, manner. See, e.g., Figure 6 and col. 7, lines 7-11. This is a significant difference. For example, in a spiral, the radius of curvature of the windings increases when going away from the center of the spiral in a radial direction, whereas in a helix, the radius of curvature is constant.

When the tape of Nakayama et al. is in a spiral-wound state, it is wound onto a reel, and hence the data storage medium is not provided with a recess in its central area, but instead has the hub of the reel in its center area. When the Nakayama et al. tape is in the state cited in the office action, i.e., the state shown in Figure 6, the tape is not in a spiral-wound state, as noted above. Thus, for example, there is no innermost winding of the optical tape. In addition, in the state shown in Figure 6, the periphery of the hollow cylinder is formed by the cylinder wall, not a winding (innermost or otherwise) of the optical tape.

Because Nakayama et al. at least does not disclose a spiral-wound polymer film or a recess whose periphery is formed by a winding of the polymer film, Nakayama et al. cannot anticipate claim 1.

See Applicants' remarks of Paper No. 8, at pages 10 and 11.

The Examiner respectfully disagrees with the Applicants' arguments. Specifically, the Examiner notes that Nakayama et al. (US 5,674,583) does indeed disclose a spiral-wound polymer film (2) - see, e.g., FIG. 4(d), wherein the media (1) is spirally wound.

For example, www.dictionary.com discloses as one particular definition of the contested word "spiral," as being "[a] three-dimensional curve that turns around an axis *at a constant* or continuously varying *distance while moving parallel to the axis*; a *helix*." Emphasis added.

Clearly, and without question, the helical winding of the tape of Nakayama et al. (US 5,674,583) fits this definition for "spiral" or a helix, as being a three-dimensional curve that lies on cylinder (33), so that its angle to a plane perpendicular to the axis (31) is constant (helix) or wherein the three-dimensional curve traced by the tape wound upon cylinder (33) turns around the axis (31) *at a constant distance while moving parallel to the axis*.

The recess of the film, *per se*, is that portion of the film which abuts the cylinder (33). Nothing in the claimed invention requires that the spirally formed film be "self-supporting" in the formation of the spiral-wound film, as the Applicants apparently would have the Examiner believe.

With regard to claim 4, the Applicants allege:

Applicants traverse the implication on page 3 of the office action that the specification does not describe "only slightly." Specifically, page 3, line 37 to page 4, line 8, for example, provides support for this claim language and describes that a difference of less than 0.005 is "particularly advantageous." Second, even assuming for the sake of argument that layer 28 is argued to be an adhesive layer (a feature not ascribed to layer 28 in Nakayama et al.), Nakayama et al. provides no teaching as to what the refractive indices of layers 2 and 28 are or should be. Thus, there is no basis for saying, as in the office action, that the interface layers of 2 and 28 at their contact point have a refractive index which differs only slightly from their respective main layers.

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See Applicants' remarks of Paper No. 8, at page 11.

As set forth in the rejection, *supra*, as per claim 4, the refractive index of the adhesion layer of Nakayama et al. (US 5,674,583) differs "only slightly" from the refractive index of the polymer film (2), since they are made of differing chemical composition, and thus must have a differing refractive index based on this chemical difference. This is interpreted broadly since the terminology "only slightly" is not defined in the Applicants' specification. Thus, it can be broadly said, that the interface layers of (2) and (28) at their contact point have a refractive index which differs "only slightly" from their respective main layers.

The Applicants reference to a particular passage of "specifically, page 3, line 37 to page 4, line 8, for example, provides support for this claim language and describes that a difference of less than 0.005 is " 'particularly advantageous' " is seen as nothing more than a preferred disclosed embodiment, and certainly does not in anyway amount to an express definition.

The Examiner maintains that the Applicants' remarks pertaining to a preferred range within the specification, are not commensurate with the invention as claimed. Therefore, limitations contained therein cannot be read into the claims for the purpose of avoiding prior art. *In re Sporck*, 386 F.2d 924, 155 USPQ 687 (CCPA 1968).

Allowable Subject Matter

Claims 16 and 17 are allowed.

Claims 7, 8, 12-15, 21 and 23-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

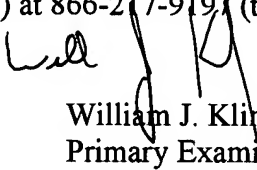
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William J. Klimowicz
Primary Examiner
Art Unit 2652

WJK